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CENTRAL INTELLIGENCE AGENCY

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The following are the technical specifications of the goniometer direction-finder which is in the course of development at VEB Funkwerk Koepenick.

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793 The radio direction-finder must meet all the general requirements for ships' radio equipment laid down in the Soviet Sea Register (Chapter 3, section 2).

794 The ship's radio direction-finder is for use as a method of locating beam direction-finders and wireless transmitting stations working on methods A-1, A-2, and A-3 in the frequency range 250-545 kcs (550-1200 m).

795 The product of the angle of the field strength minimum, in degrees, and the field current, in microvolts, is not to exceed 50 at any point in the whole frequency range.

796 The dial of the directional-receiver is to be calibrated in kcs. The frequency bands 325-385 kcs and 410-512 kcs are to be made to stand out by the use of colored figures. The total error in frequency setting is not to exceed 0.25% at any point in the frequency range. The output of the receiver is to be suitable for the use of earphones with a DC resistance of 4,000 ohms.

798 The receiver is to pass audio frequencies for the range of 150-2500 cycles. The variation of the output voltage is not to be more than 5% above or below its mean value.

799 The selectivity of the receiver is to be such that, if the resonance frequency is detuned to the extent of ± 10 kcs, the signal strength will drop by not less than 40%.

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(Note: Washington distribution indicated by "X"; Field distribution by "#".)

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800 In superheterodyne receivers, the attenuation of the reflector-channel (Spiegelkanal) is to be not less than 40% at the highest point of the frequency range.

801 The receiver is to be provided with a hand amplifier control with which the output voltage can be reduced by not less than 40%.

802 The time required for changing the frequency setting is not to be more than 5 seconds.

803 The tuning knob is to be on a vertical axis, guaranteeing a slow-motion reduction of not less than 5 to 1.

804 The receiver is to incorporate a built-in measuring instrument with which the voltage of the power supply and the current in the anode circuit of each tube can be measured.

805 The receiver is to be built on a metal chassis and enclosed in a splash-proof housing.

806 All switch keys and the measuring instrument are to be mounted on the face-plate of the receiver.

807 The time required for gaining access to the internal parts of the transmitter and to the tubes is not to exceed 15 seconds.

808 The parts of the receiver are to be so arranged as to be easily identifiable.

809 The radio direction finder is to have a moveable frame and the goniometer direction-finder, a fixed frame. The frames are to withstand a wind pressure of 11 at a speed of 29 meters/second.

810 All parts of the frame and its fittings, with the exception of the ball-race, are to be made of nonmagnetic material.

812 The windings of the loop (antenna) are to be surrounded by a hermetically-sealed cover made of a corrosion-proof material with milled finish.

813 to 815 do not apply, as they relate only to a loop direction finder.

816 The connecting leads between the housing and the receiver or goniometer are to run inside the spindle on which the frame is mounted. The frame is to be built so that the leads can be seen and tested without difficulty, and so that it shuts hermetically at the point where it protrudes from the deck.

817 The goniometer is to be mounted in a metal screen and in the same housing as the receiver. The design of the goniometer is to be such that the variometer can be turned through an angle of not less than 260 + 20°. The use of rubbing contacts in the goniometer circuit is not permitted.

818 The goniometer of the radio direction finder with a rotatable frame and also the usual indicator are to have two scales, one fixed and one moveable, the latter controlled by a gyro-compass.

819 The radio direction finder is to be equipped for automatic deviation compensation.

820 On switching on the radio direction finder, a light-signalling system is also to be brought into action, to indicate the switching of all aerials to the position "independent" (Allein).

821 A locking device is to be provided to enable the use of the radio direction finder after switching all ships' aerials to the "independent" position. After all the ships' aerials have been switched to this position, the green signal lamp is to glow on the face of the radio direction finder.

822 The radio direction finder is to operate off the ships' mains, or from a reserve battery power supply.

823 For the charging of the batteries of the radio direction finder, a charging set is to be provided which meets the requirement of Section 529 of the Soviet Sea Register.

824 It is to be possible to use simultaneously two pairs of earphones with the radio direction finder.

825 The use of a visual current-tracing indicator is recommended.

826 The radio direction finder is to be provided with a signalling system to give a warning in the wireless cabin of the necessity of switching all aerials to the "independent" positions.

827 The minimum requirement for spare parts is as follows:

a.	electronic tubes of all types	5 sets
b.	electric lamps	5 sets
c.	selenium or copper oxide rods (in the various forms required in the equipment)	1 of each
d.	fixed and variable resistances (as above)	1 of each
e.	condensers with fixed capacities (as above)	1 of each
f.	rotary converter	1
g.	switches	1 of each type
h.	fuse cartridges	10 sets
i.	screws, bolts, nuts, plates, and other parts used for fixing internal and external components	2 of each type
j.	head sets (double ear piece)	2 pairs
k.	tool kit for repairs	1 set

Additional requirements

All cables laid into the equipment are to be joined on to it; plug and socket contacts are not permitted.

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